

Serial No. 10/643,078

Docket No.: 122.1563

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claim 1 in accordance with the following:

1. (CURRENTLY AMENDED) A line quality characteristic evaluation system for a wireless communication line comprising:

~~provided with~~ a line quality estimating means estimating a line quality of ~~a the~~ wireless communication line under nonlinear interference wireless lines in an area in which wireless lines for wireless communication by digital signals sharing space and other wireless lines interfering with the wireless lines are present together,

~~wherein said estimating the line quality of the based on nonlinear distortion influenced by all wireless lines in the area and expressed by an intercept point input level (IIP), a reception equivalent band limitation expressed by attenuation of the intercept point input level (IIP), reception side thermal noise of the wireless communication lines~~ line is based on nonlinear distortion influenced by all wireless lines in the area and said nonlinear distortion is expressed by an intercept point input level (IIP), and leakage power from other interfering wireless lines leaking into the reception equivalent band.

wherein said estimating the line quality of the wireless communication line is based further on:

a reception equivalent band limitation expressed by attenuation of the intercept point input level (IIP),

reception side thermal noise of the wireless communication lines, and

said leakage power from other interfering wireless lines leaking into the reception equivalent band.

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2. (ORIGINAL) A line quality characteristic evaluation system as set forth in claim 1, wherein there are a plurality of other wireless lines and wherein said line quality estimating means further estimates that line quality of a wireless communication line based on probabilities of existence of an interfering plurality of wireless lines at any positions in said area.

3. (PREVIOUSLY PRESENTED) A line quality characteristic evaluation system as set forth in claim 1, wherein said line quality estimating means provides base stations and mobile stations communicating by digital signals in said area and, at a downstream mobile wireless line from a base station to a mobile station, estimates a wireless line quality of a range of area under nonlinear interference by a plurality of interference waves for a planar distribution of said mobile stations based on a mobile station reception level due to mobile stations distributed in said area and a multiplexer channel of downstream lines, an interference level received by said mobile station from a wireless line in said area or nearby, and a prescribed value in said area.

4. (ORIGINAL) A line quality characteristic evaluation system as set forth in claim 3, wherein said line quality estimating means estimates a channel capacity in an upstream mobile wireless line from a mobile station to a base station in a range of area under nonlinear interference based on a reception level of a signal by said base station by a multiplexer channel from a plurality of mobile stations distributed in said area, an interference level received by said base station from a wireless line in said area or nearby, an amount of interference in a same system from a plurality of mobile stations distributed in said area, and the number of the plurality of mobile stations distributed planarly.

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5. (PREVIOUSLY PRESENTED) A line quality characteristic evaluation system as set forth in claim 2, wherein said line quality estimating means provides base stations and mobile stations communicating by digital signals in said area and, at a downstream mobile wireless line from a base station to a mobile station, estimates a wireless line quality of a range of area under nonlinear interference by a plurality of interference waves for a planar distribution of said mobile stations based on a mobile station reception level due to mobile stations distributed in said area and a multiplexer channel of downstream lines, an interference level received by said mobile station from a wireless line in said area or nearby, and a prescribed value in said area.